DELIVERING RESULTS GENERATING VALUE

Wambo Underground Outburst Management

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June, 2019

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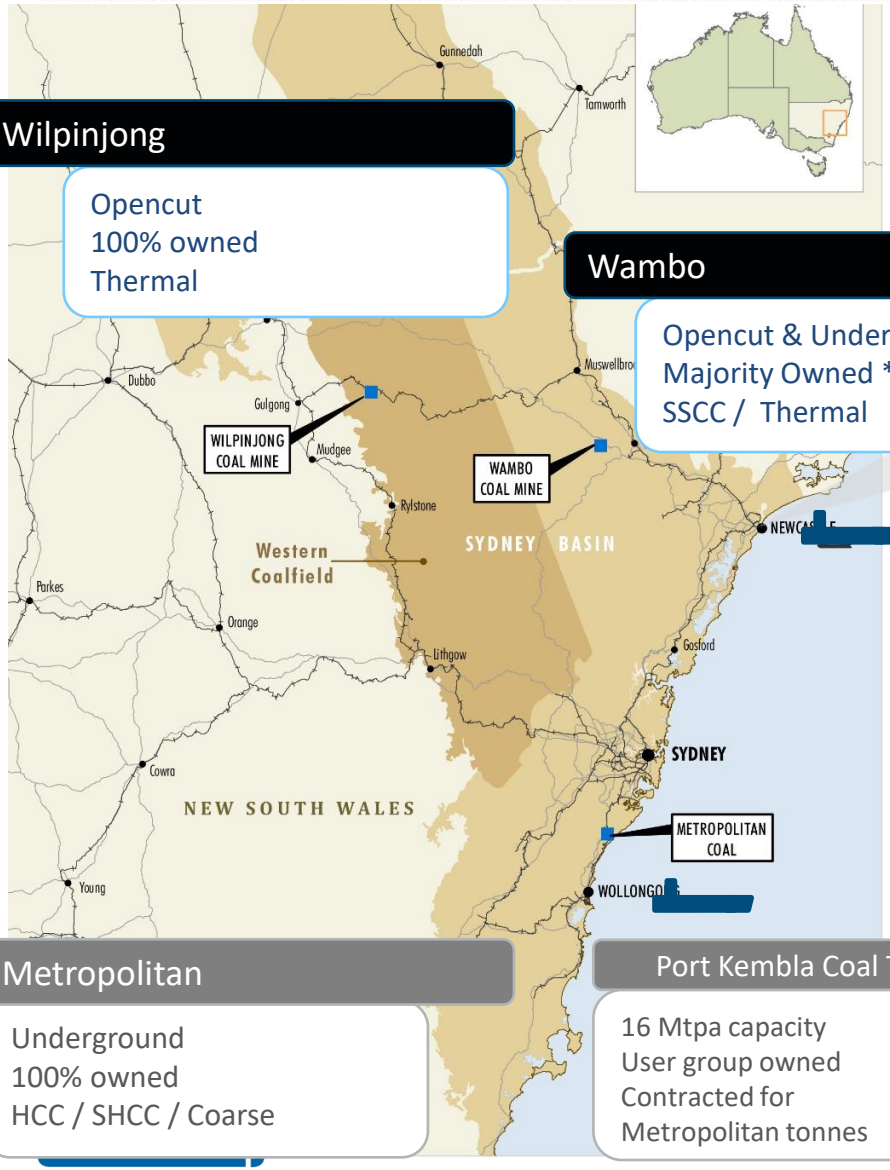
Peabody Energy – NSW Portfolio Overview



Wilpinjong

Opencut
100% owned
Thermal

Wambo

Opencut & Underground
Majority Owned *
SSCC / Thermal

Newcastle Office

Marketing and Logistics office, managing the execution of sales/trade

NCIG

66 Mtpa capacity
User group owned, with Peabody shareholding currently 15.8%

PWCS

145 Mtpa capacity
User group owned

Contracted for existing and organic expansion potential from equity operations

Metropolitan

Underground
100% owned
HCC / SHCC / Coarse

Port Kembla Coal Terminal

16 Mtpa capacity
User group owned
Contracted for Metropolitan tonnes

* Subject to Third party B Class Shareholding entitling 25% profit share

Wambo Ownership and History

- Wambo is a combined open-cut and underground mine that has been operating since 1969 and was acquired by Peabody in 2006. (50 years)
- Located in the Hunter Valley of New South Wales, Wambo is a well established premium thermal coal mine which rails to the Newcastle Port's for export.
- Wambo primarily exports to Japan, Korea and China.
- In 2018, Wambo complex mined 7.7 Mt.
- Wambo is one of Peabody's largest operating mines and has a workforce of approximately 566 permanent Peabody employees.

Wambo UG - Longwall

Wambo Opencut

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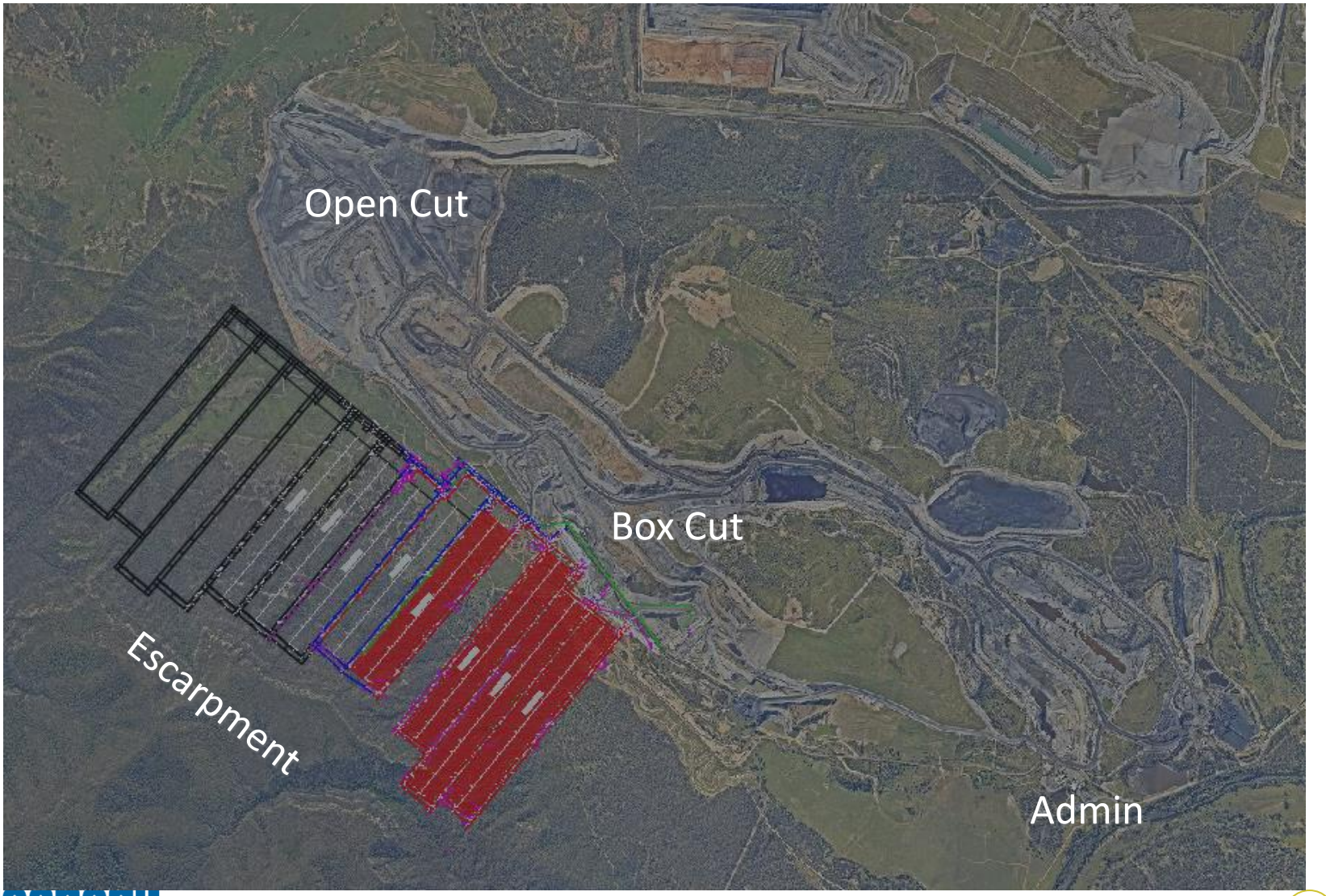
Coal Handling and Preparation Plant

Wambo Overview (Aerial)



The Mine - UG

Nominal 3.7 mtpa mine (2019 3.4 mtpa)

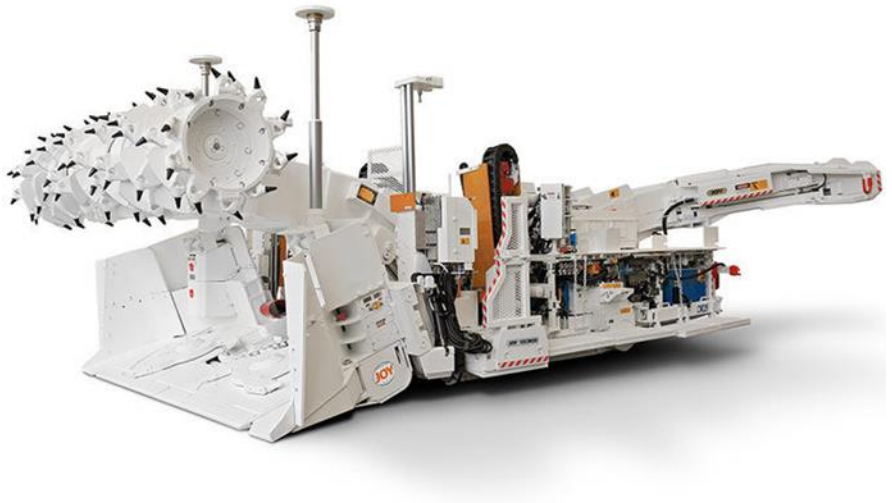
3 heading mains and 2 heading gate road layout

1 x Joy LW – 250 m wide (1400 – 1800m blocks)

4 x continuous miners

- 1 x super unit gate road
- 1 x super unit mains

1-2 x UIS Drill rig (sometimes)



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Simple Yet Challenging

SIMPLE	CHALLENGES
• Highwall entry mine • 2 km UG • Layout • New equipment • Benign LW operating conditions • Land ownership • Residential location • Environmental consent conditions (within OC void) • Low CAPEX input • Dry seam	• Portal distance from admin • Significant structural geology • Soft/weak roof • Multi seam workings • Limited data • Multi mine operations (UG) • Relocating infrastructure • Scheduling / short panels / Lead time • Open cut interaction - Blasting

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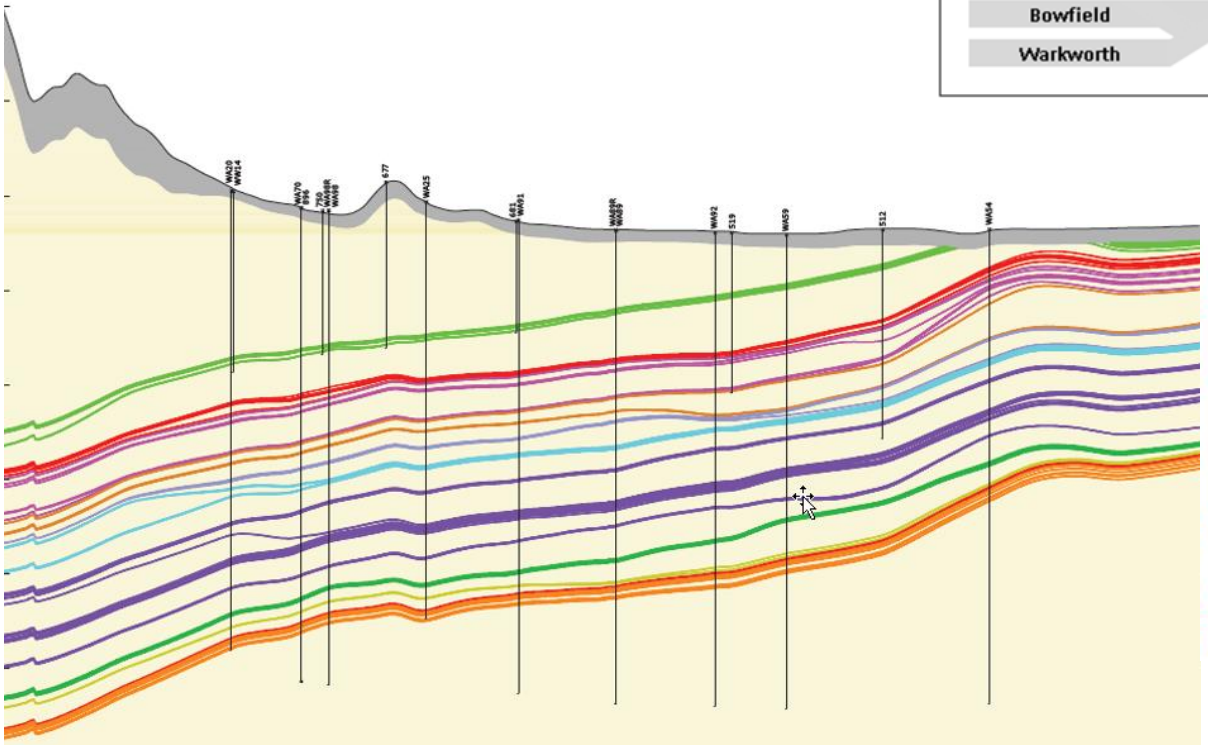
Coal Seams

- Multiple seam lithology
- Target
  - Whybrow

WAMBO	UNITED	LEMINGTON	H. VALLEY
Whybrow	Whybrow	Whybrow	Whybrow
Redbank Ck	Redbank Ck	Redbank Ck	Redbank Ck
Wambo	Wambo	Wambo	Wambo
Whynot	Whynot	Whynot	Whynot
Blakefield			Blakefield
			Glen Munro
Glen Munro	Blakefield	Blakefield	Woodlands Hill
Woodlands Hill	Glen Munro	Glen Munro	Arrowfield
Arrowfield	Woodlands Hill	Woodlands Hill	Bowfield
Bowfield	Warkworth	Warkworth	Warkworth
Warkworth			

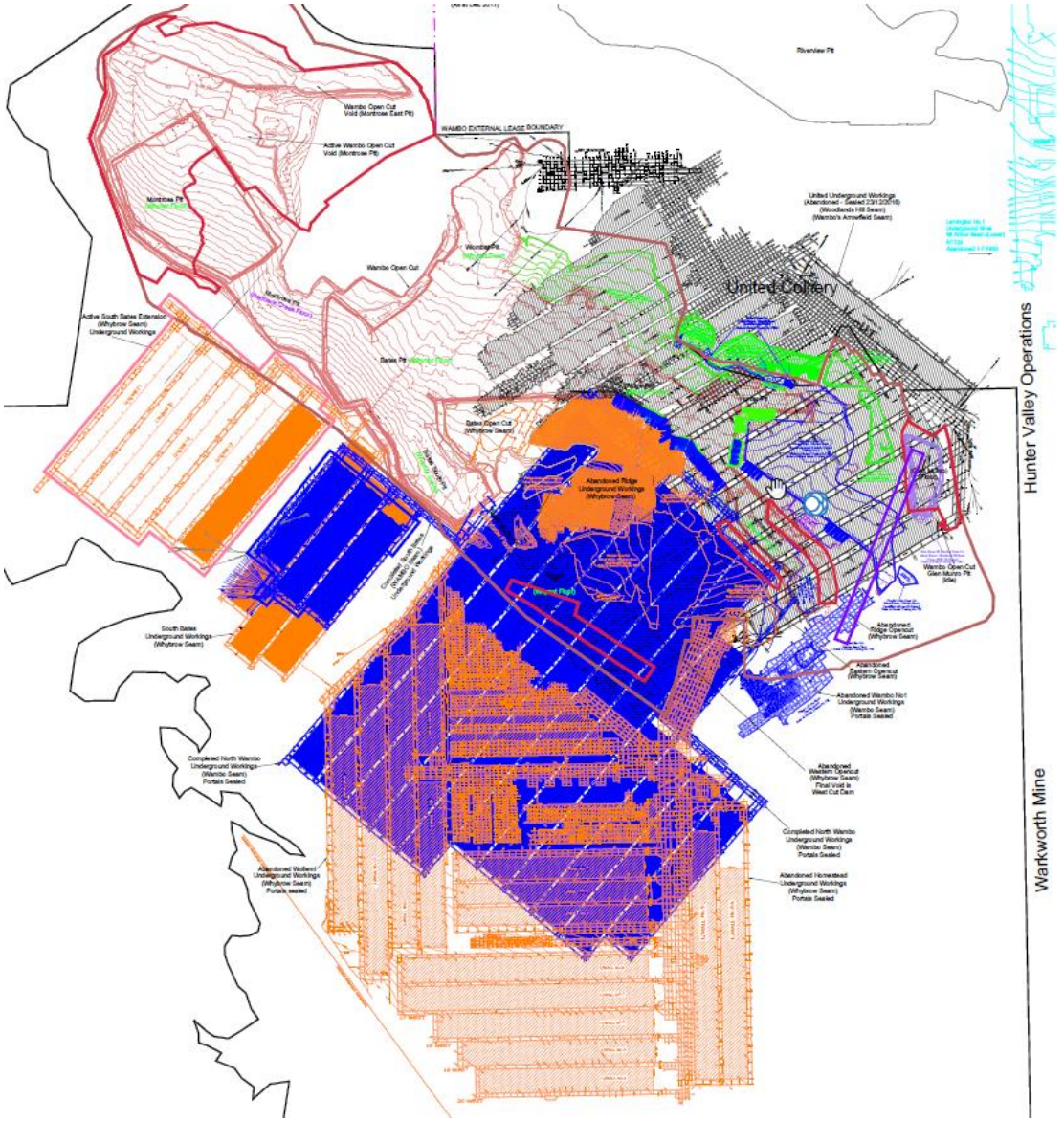


SEAM LEGEND

- Weathered Zone
- Whybrow
- Redbank Creek
- Wambo
- Whynot
- Blakefield
- Glen Munro
- Woodland Hill
- Arrowfield AFA-C
- Arrowfield AFD-E
- Bowfield
- Warkworth

Workings

- Wambo Open Cut
- Multi Seam UG
  - Wollemi (Whybrow)
  - Homestead (Whybrow)
  - North Wambo (Wambo)
  - South Bates (Whybrow)
  - South Bates (Wambo)
  - South Bates Extended (Whybrow)
  - United (Glencore) (Arrowfield)



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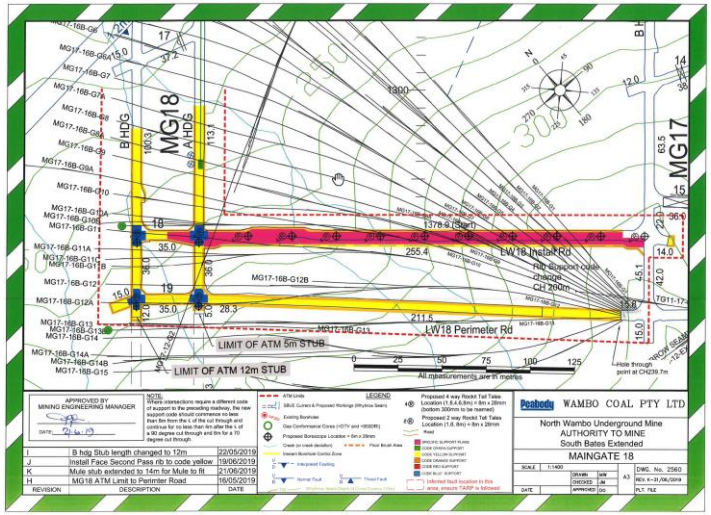
South Bates Whybrow Extended

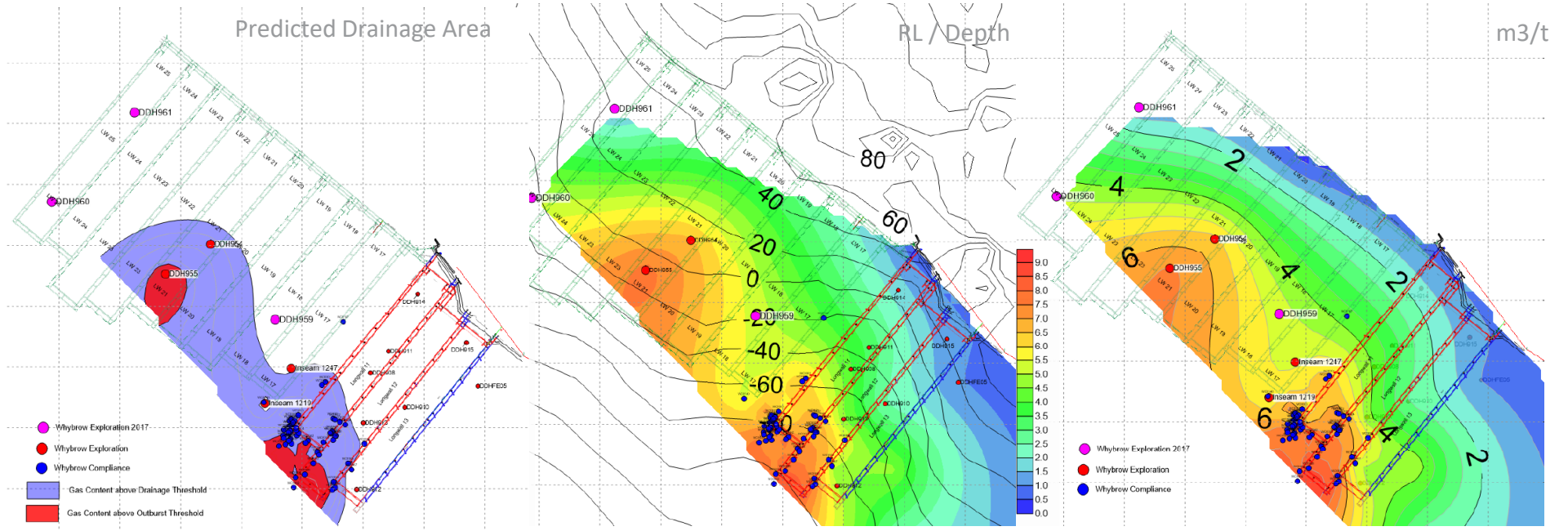
General Outburst Management Strategy

- Wambo UG workings contains a combination of above and below threshold coal
- Surface to seam and inseam compliance sampling is used to find boundary between above and below threshold coal levels
- Threshold x 2
  - DRI 900 (Mining in outburst control zones)
  - Defined threshold values (DRI 900 equivalent from geogas)
- Drill and drain above threshold coal
- Resample
- Issue ATM when below threshold

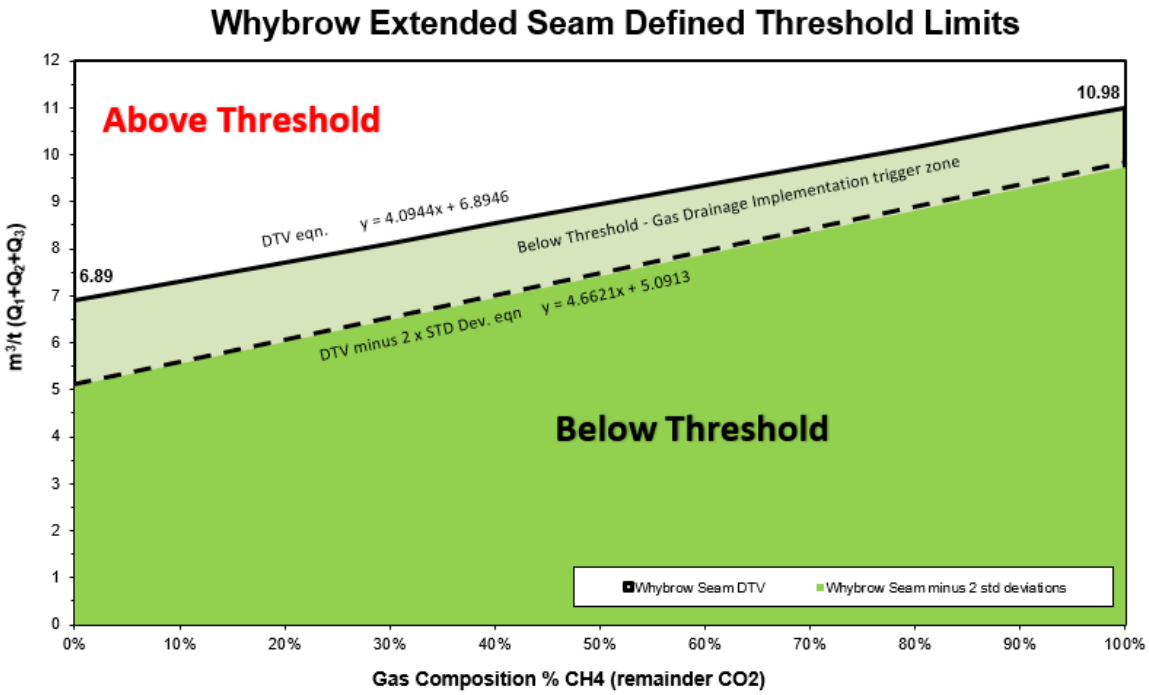


Reservoir Prediction / Project Feasibility

- Vertical compliance boreholes used for feasibility
  - Full working section sampled for gas
- Reservoir prediction generally lower total gas content



Current Threshold Limits



AND DRI 900

Strategy to sample virgin and drained coal to confirm below threshold

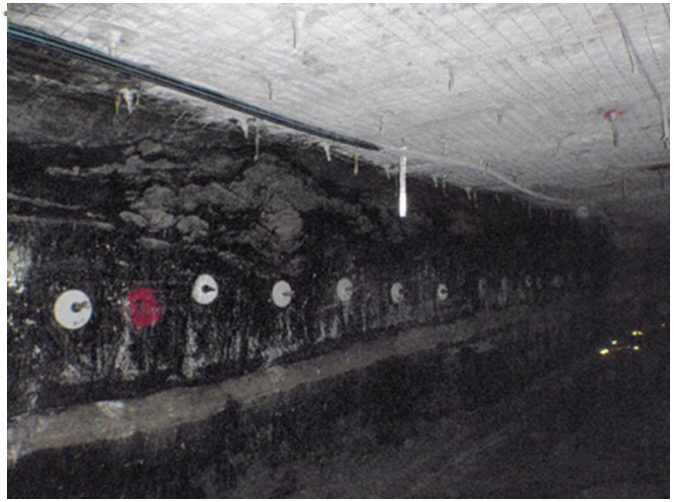
At 900 DRI and average seam gas composition, the outburst and drainage thresholds were calculated as:

- Outburst Threshold of 7.89 m³/t @ a seam gas composition of 40 % CH_4
- Outburst Threshold of 10.10 m³/t @ a seam gas composition of 92 % CH_4

- Drainage thresholds (Defined Threshold Value – 2 x std deviations) were determined as:
  - Drainage Threshold of 6.36 m³/t @ a seam gas composition of 40 % CH_4
  - Drainage Threshold of 8.81 m³/t @ a seam gas composition of 92 % CH_4

Drilling Challenges

- Multiple coal ply's (A ply and B ply)
- Variable seam characteristics
  - Thickness
  - Grades
  - Geology / structure
- Minimal data on seam
- Variable target seam 0.8m to 1.5m
  - Multiple branches
- Hard band / Roof (AS ply)
  - Sandstone erosional channel
- Cowpat / Clay interburden
  - Typical clay – moisture sensitive



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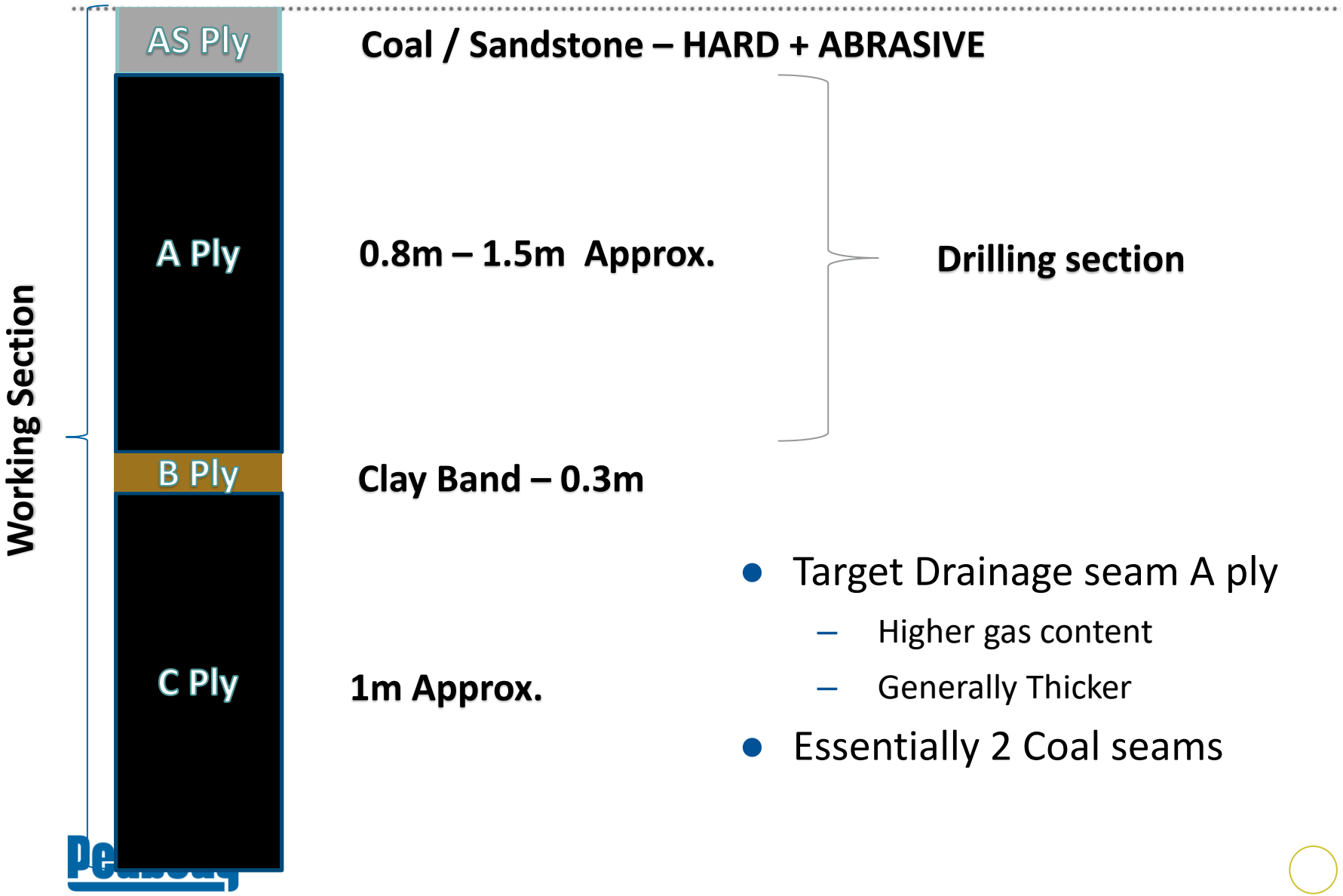
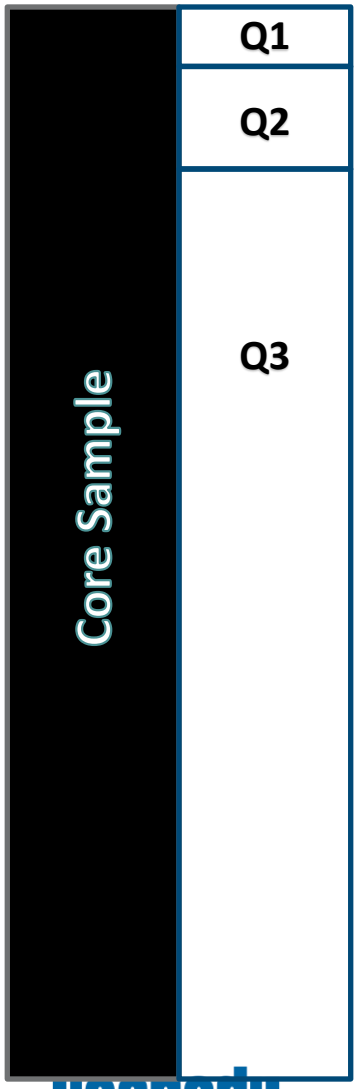
Mine Working Section



- Target Drainage seam A ply
  - Higher gas content
  - Generally Thicker
- Essentially 2 Coal seams

Gas Content in coal



≈ 5% total gas – 0.4m3/t

≈ 15% total gas – 1.2 m/3

≈ 80% total gas – 6.4 m3/t

Nominal 8 m^3/t and 940 DRI

75 - 85% CO_2

15 - 25% CH_4

Aim to pass on both DRI and Threshold.
A Few samples have passed on one threshold and failed on the other

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Hole Flows and Perm

- Tight solid coal
- Low flowing
  - 5-15 l/s each hole
    - 16,000m of holes discharging ≈ 80-100 l/s
- Primary and Secondary cleats filled with calcite
  - Low pore space
- Predominantly Q3 gas
- Direction of holes have minimal impact on flow
- Boreholes remain stable

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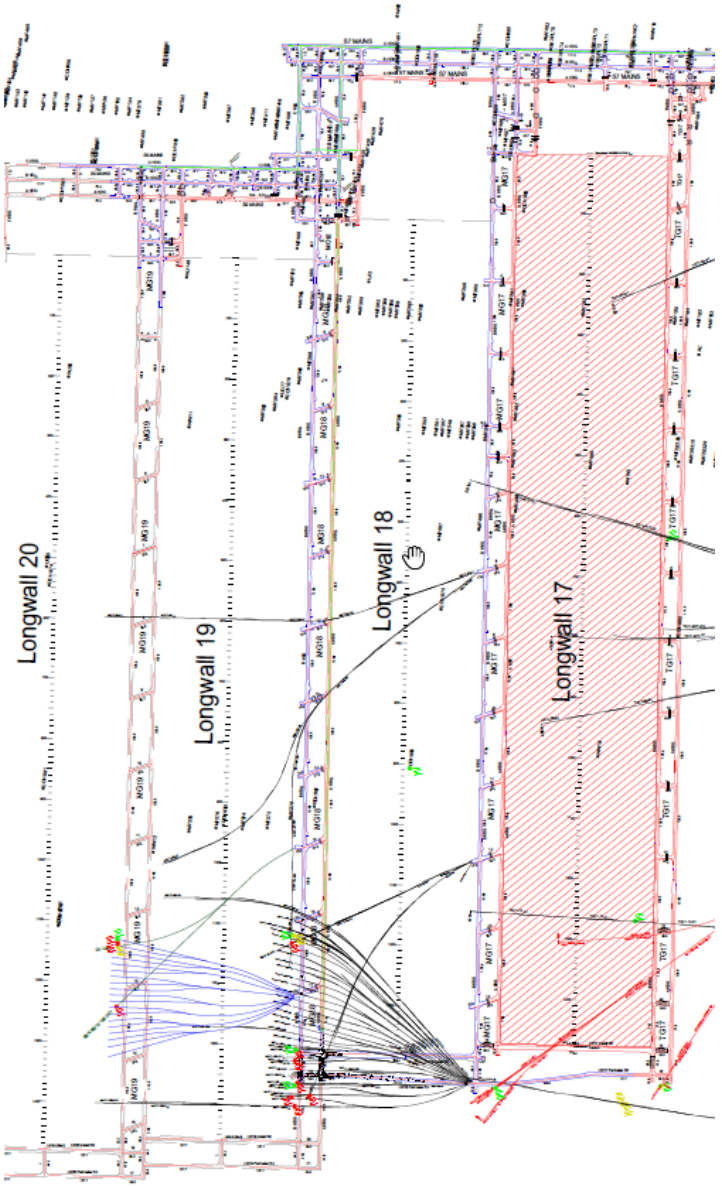
Current Gas Drainage - SBX

- Primary target A ply
- Secondary confirmation of gas in C ply is below threshold
- 2 drainage stubs at current
- Drilled up dip for water management
- Tight spacing of holes
  - 10m
- Early access exploration holes drilled



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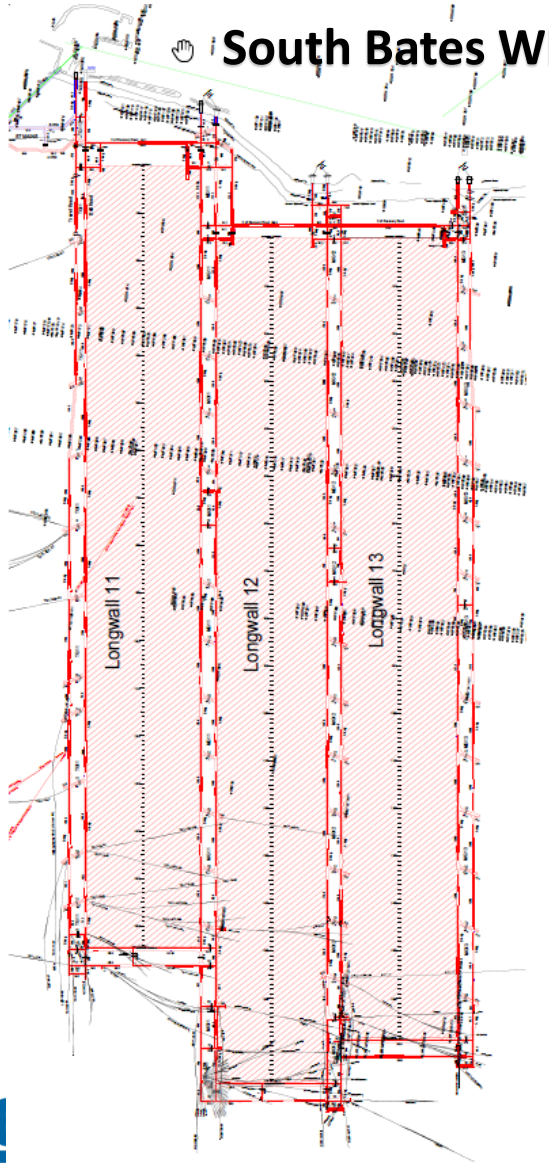
Recent previous Wambo UG mines

South Bates Whybrow Seam



South Bates Wambo Seam

Other Challenges

- Gas drainage is a bolt on process at Wambo when required and is not considered another standard process but more of a hinderance
- Frontline management have limited exposure to gas drainage process and practical management of gas drainage holes
- Mine schedule prevents long lead times on holes
  - Short panels / fast moving
- Generally gas is noticed first with CM trips and sumping in as we progress into deeper higher gas areas
  - Change in operating / cutting cycle required in gas drainage areas
- Low LW SGE considering residual gas content
- Gas management strategy for hole gas make
  - Typically vented into a return

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Summary / Key Learnings for Wambo

- Vertical compliance/Reservoir assessment can vary to inseam horizontal (aggregate/composed vs single point sample)
- Utilising a combination of DRI and Threshold values for compliance can add an additional layer of complication
  - Currently looking at submitting a HRA to utilise threshold only
- Wambo requires tight spacing due to low flow / tight lead time
  - Other options such as fracing not currently explored due to minimal drainage area
- Gas drainage and hole management isn't part of day to day operations and not second nature to persons at Wambo
  - refreshing personnel on practices every

Questions?

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